Ultima® Underworld™ II Labyrinth of Worlds™

INSTALL GUIDE

IBM-PC 386SX+ & 100% compatibles

SYSTEM REQUIREMENTS

Computer. A 386SX or higher IBM-PC or 100% compatible system.

Video Card. An IBM VGA or compatible video card with at least 256K of video ram. (Note: MCGA, as found on the PS/2 model 25 and model 30, will not work).

Free RAM. You must have at least 640K of low RAM (memory) to play *ULTIMA Underworld II*. Of that 640K, at least 530K of low memory must be *available* at the DOS prompt to run the *minimum* game configuration. Other configurations may require as much as 566K free.

EMS. In addition to 530-566K of free RAM, you must have at least 656K (671744 bytes) of *expanded memory* available at the DOS prompt. The game won't run with less than that. Expanded memory above 656K (up to a maximum of 1700K) is used to speed play.

Hard Disk. You must have at least 11.5 megabytes of hard disk space available. This allows you to install *ULTIMA Underworld II* in its smallest configuration. Other configurations require as much as 13 megabytes of hard disk space.

INSTALLATION

1. Insert disk #1 in a floppy drive.
2. Type the letter of your floppy drive followed by a colon, then press [Enter]. For example, if your floppy drive is drive A, type "A: [Enter]."
3. Type "INSTALL [Enter]."
4. The Configuration Screen appears. Your current configuration (including required hard disk space) is shown on the left. Options available to you are displayed on the right.

   - Use the arrow keys on your keyboard to highlight the option you want.
   - A highlighted option appears as blue text in a gray box.
   - Press [Enter] to select a highlighted option.

   While selecting options, you can press [Esc] at any time to return to DOS. Once the program begins copying files to your hard disk, press [Control][Break] if you need to abort installation. (You may have to try a few times before the program aborts. Also note that you will have to delete any files and/or directories that were copied during the aborted installation before you can try installing again.)

5. The first configuration option is *Sound System Installation*. This determines how music and non-digitized sound effects are played. Your choices are:

   None
   Ad Lib Music Card
   Sound Blaster
   Sound Blaster Pro
   Roland MT-32 or LAPC-1

   Highlight the sound board you have (or "None" if you don't have a sound board) and press [Enter]. Note that the music files require an additional .5 megabytes of hard disk space above the 11.5 megabyte minimum.

6. The next option is *Digitized Sounds*. If you have one of the sound boards listed on the right side of the screen, you can hear digitized sound effects and limited speech during the game. (Note that you can use a different sound board to play music and digitized effects.) The options on this screen are:

   None
   Sound Blaster
   Sound Blaster Pro

   Highlight the option you want and press [Enter] to select it. The digitized sound files take up 1 megabyte of disk space above the 11.5 megabyte minimum. If your hard disk is nearly full, you may not want to install digitized sound.

7. *Hard Disk Installation* is the next choice. The installation program detects which drives are available (i.e., which of your hard disks — or partitions — have enough free space) and lists them on the right. Type the letter of the drive on which you want to install *ULTIMA Underworld II*. Then type a directory name, or press [Enter] to select the default UW2 directory.
8. When the *Confirm Selections* screen appears, you must decide whether to copy the files to your hard disk. If the configuration on the left is correct, select "Yes" to continue. If the configuration is incorrect, select "No" and you will begin again, from the Sound System Installation screen (Step 5, above).
9. When you select "Yes," the installation program begins copying the files from the original floppies to your hard disk. Insert each floppy

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disk into your drive as prompted and press any key to continue the file copy. *Copying all the files can go very quickly or it can take as long as half an hour, depending on the speed of your computer.*

10. When installation is complete, you automatically return to DOS, in the directory to which you installed the game. To play, type "UW2."
11. If you have never played *ULTIMA Underworld II* before, consult the **Player's Guide**. This begins with a tutorial that explains everything you need to know to get started. If you encounter any difficulties, consult the **Troubleshooting** section of this **Install Guide**. If problems persist, call ORIGIN Customer Service.

CHANGING YOUR CONFIGURATION

Follow the reinstallation instructions below if you ever add a sound card (or change from one sound card to another).

Return to the drive and directory where you installed the game and type "Install." This allows you to change any or all of the selections you made when you originally installed *ULTIMA Underworld II*. Simply select the options that reflect your current hardware configuration. (See the installation instructions, above.)

If you have a sound card in your PC and you originally installed the game without sound or speech, the installation program must copy new files from the original floppies to your hard drive. Insert the original game disks when prompted.

MEMORY USAGE

Requirements

ULTIMA Underworld II requires 640K of main RAM and at least 656K expanded memory. Of the 640K, at least 530K must be available at the system prompt. The game will not run with less.

- *Music and sound effects* alone require additional free RAM.
  - * The Sound Blaster and Sound Blaster Pro require approximately 31K over the base 530K (a total of 561K).
  - * The Roland LAPC-1 and Roland MT-32 require approximately 20K over the base 530K (a total of 550K).
- *Digitized sound* alone requires additional free RAM.
  - * The Sound Blaster and Sound Blaster Pro require approximately 5K more memory.
- *Music, sound effects and digitized sound* together require the most memory.
  - * The Sound Blaster and Sound Blaster Pro require a total of approximately 566K to run music and digitized sound.
  - * Using a Roland MT-32 and LAPC-1 for music and effects with either Sound Blaster board for digitized sound requires a total of approximately 555K free.

Available RAM

To find out how much memory you have available, run CHKDSK or MEM, two DOS programs designed for this purpose. If you use CHKDSK, look at the last line of the information presented. If you use MEM, look for the line describing the largest executable program size. This tells you how much RAM is free. For example, CHKDSK might tell you that your 640K system has 519,490 bytes free.

Continuing the Sound Blaster example above: You must have 566K free to play the game with both music and digitized sound. (That's 579,584 bytes.) If CHKDSK tells you that you have 519,490, for example, you don't have enough free memory and the game will not run. If you have more than the minimum 530K required, but less than the amount required for your sound configuration, the game will run, but without sound.

Freeing RAM

If you don't have enough memory to run *ULTIMA Underworld II*, you may want to remove memory-resident programs that are unnecessary for system usage from your AUTOEXEC.BAT and CONFIG.SYS start-up files.

You can view these files by using the DOS TYPE command. (Enter "TYPE AUTOEXEC.BAT" at your DOS prompt to view your AUTOEXEC.BAT file.)

To edit your AUTOEXEC.BAT or CONFIG.SYS files, use any commercial text editor or word processor capable of saving files as "text only." Either EDIT, the text editor included with DOS 5.0, or EDLIN, the text editor included with earlier versions of DOS, will do the job. Consult your DOS manual for information about modifying files with EDIT or EDLIN.

Do *not* delete your AUTOEXEC.BAT or CONFIG.SYS files completely — without them, your computer will not function.

If you have a drive cache program that works with your EMS manager, it will speed game play if you leave it in your AUTOEXEC.BAT file. One such cache, SMARTDRV, comes with DOS 5.0 as well as *Microsoft Windows*, but there are many other drive cache programs available.

Making a New Floppy Boot Disk

If you need more free RAM, but do not want to reconfigure your system, make a bootable system floppy disk to start your computer prior to play. To do this, insert a blank disk into your A drive. Type your hard drive prompt (for example,

"C:") followed by "FORMAT A:/S." This will copy enough of your system files onto the floppy disk. You can now use this disk to boot up the machine.

However, to play *ULTIMA Underworld II*, you must also copy your CONFIG.SYS and AUTOEXEC.BAT files to your boot disk so you can access expanded memory (see **Expanded Memory**, below) and use a mouse. Then consult the documentation that came with your memory manager and mouse to edit these crucial files as necessary to allow their use and to free up as much RAM as possible.

Should this process fail, it is also possible to create a bootable floppy by typing "SYS A:" after the drive prompt. When the words SYSTEM TRANSFERRED appear, type "COPY COMMAND.COM A:" and you will see "1 FILE COPIED." This indicates that the disk is now a boot disk. If you are running under DOS 4.01, also copy SHARE.EXE onto this boot disk. Finally, copy your AUTOEXEC.BAT and CONFIG.SYS files (suitably edited, as above).

As mentioned in the last section, if you have a drive cache program that works with your EMS manager, the game will play faster if you keep it in the AUTOEXEC.BAT and CONFIG.SYS files.

Turn your computer off, insert your new boot disk in your A drive, and turn the computer back on. Change to your hard drive (by typing "<DRIVE LETTER>: [Enter]"), switch to the directory containing *ULTIMA Underworld II* (type "CD\UW2 [Enter]" if you selected the default directory) and type "UW2 [Enter]" to begin play.

Expanded Memory

Memory beyond 640K can be allocated as *expanded memory*. Expanded memory is not the same as *extended memory* — if your computer has extended memory, reconfigure it as expanded memory.

To access expanded memory on 386 systems, you must use an expanded memory manager program. Two of the most common ones are Quarterdeck's QEMM.SYS, and EMM386.SYS (which comes with Microsoft *Windows* and DOS 5.0) but there are others. These memory managers are installed by adding a line to the CONFIG.SYS file on your computer.

The Microsoft memory manager allocates only 256K of expanded memory unless you specify a greater amount. Consult your documentation and allocate 1 megabyte (1024K) or more if possible. (The game will run with as little as 656K of available expanded memory, but the more you allocate, up to a maximum of 1.7 megabytes (1744K), the better. Memory resident software can use up some of the available memory, so you may have to allocate more than the minimum 656K in order to run *ULTIMA Underworld II*.)

In addition, you must have HIMEM installed to use the *Windows* memory manager. Your CONFIG.SYS file should include the following lines in this order:

DEVICE=<PATH>\HIMEM.SYS
DEVICE=<PATH>\EMM386.SYS 1024

"<PATH>" is the directory in which these files are found (usually C:\WINDOWS, if you use *Microsoft Windows* or C:\DOS, if you use DOS 5.0). The number 1024 indicates the amount of memory you want to access as expanded memory. You can have as little as 656K free and the game will run, and the game will utilize up to 1744.

Consult your hardware dealer or your expanded memory manager's documentation for more information about configuring expanded memory and determining how much expanded memory is available.

Hard Disk Space

ULTIMA Underworld II requires at least 11.5 megabytes of hard disk space to install. As you add features, however, the space requirement grows. Additional features require extra hard disk space, as follows:

- *Music and sound effects* require an additional 500K of hard drive disk space.
- *Digitized sound* requires an additional 1 megabyte of disk space on your hard drive.

To determine how much free hard disk space you must have to install the game, add the number of megabytes required for each option you want to the minimum of 11.5 megabytes.

For example, the full game — including Roland music (500K) and Sound Blaster digitized sound (1 megabyte) — requires about 13 megabytes of free hard disk space.

In addition to the space required to install the game, you must have an additional 1200K free to begin play. This space is required for saved games. If you don't have this 1200K free when you try to play, the game will not run.

TROUBLESHOOTING

***ULTIMA Underworld II* fails to load or run.**

- *You may not have sufficient free RAM.* Run the CHKDSK or MEM program included with DOS to check your computer's available RAM. To do this, type "CHKDSK" or "MEM" after the prompt for the drive in which you have installed the game. In CHKDSK, compare the last line on-screen to the amount of free RAM required for your configuration as listed above. In MEM, consult the third line ("largest executable program size"). Free up RAM if needed.
- *You may be using a memory manager program that uses up too much base RAM to run* ULTIMA Underworld II. For example, depending upon your system configuration, EMM386.SYS (the

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Expanded Memory Manager included with Microsoft *Windows*) may use too much of your 640K to permit *ULTIMA Underworld II* to run.

• *Your CONFIG.SYS file may need to be modified.* If you get a message that reads, "Internal Error" or "Underworld II can no longer run. Error code ####," edit your CONFIG.SYS file so the line reading "FILES=##" reads "FILES=20" (or more). This should allow you to play the game.

• *You may have a memory-resident TSR program that conflicts with the game.* Boot the computer from a DOS system floppy (as in "Making a New Floppy Boot Disk," above) or remove memory-resident programs before running the game.

• *You may have chosen an invalid configuration during the install process.* Check your configuration and, if necessary, re-install the game.

• *You may have filled all free space on the active disk drive.* Use the DOS DIR command to check available hard drive space. You need at least 11.5 megabytes on your hard drive to install the game and 1200K of free hard disk space to run it.

My game runs too slowly.

Your computer may not be fast enough to run the game efficiently. The minimum configuration is a 16 MHz 386SX, but movement and animation are faster and smoother on a faster computer. From the main game screen, select the Options icon, followed by "Detail." Experiment with the various detail levels until you find a balance between speed and detail that suits you.

I want to play different characters in different games.

ULTIMA Underworld II *allows you to save up to four different games at once.* You can save four different points in a single character's adventure or you can save one character's adventure in the first saved game slot, another character's adventure in the second slot, and so on. Any combination of characters and saved game slots is possible (up to the maximum of four).

I've tried saving my game, but I keep getting a message that says, "SAVED GAME FAILED."

Each saved game takes up approximately 500K of hard disk space. If you don't have that much available, you can't save. To get around this, you can save your new position over an existing saved game. Select the Options icon from the main game screen, followed by the "Save Game" option. Then, simply select a saved game slot you've already used.

In addition, you must have 1200K of free hard disk space available when you begin a session.

When I try to run the game, I get a message that says "Sound System Initialization Failed"

You probably have enough memory to run the basic game, but not enough to load the sound drivers you configured with. You will either have to increase the amount of free low memory (see **Freeing RAM**, above) or play without sound.

When I start, the music sounds very odd.

Early versions of the Sound Blaster Pro require different configurations than later versions. To correct this, run the SET-ENV program that came with your Sound Blaster Pro. This will automatically set the environment variable properly. If this doesn't work, this variable can be set manually. Consult your Sound Blaster Pro documentation or your hardware dealer for more information.

I'm having trouble using my joystick.

Your joystick may be set to "auto fire." If this is the case you may have difficulty moving your character and the buttons may not function as you expect. To correct the problem, turn auto fire off. If your joystick doesn't allow you to turn auto fire off, unplug it and play with a mouse or use the keyboard controls.

I seem to spin around even when I'm not touching the mouse, joystick or keyboard movement keys.

This can be caused by a miscalibrated joystick. Press [Control] [J] and follow the instructions on screen to calibrate and center your joystick properly. If you cannot get the joystick correctly calibrated, you will have to unplug it to play.

My Sound Blaster beeps before playing digital effects.

Under OS/2 old Sound Blaster ROM (1.5) will cause this. Reinstalling without digital effects will fix this, though you will lose digital effects, of course.

None of the suggestions above seem to help.

If you get an error message you don't understand, or you can't solve an ULTIMA Underworld II *problem, call ORIGIN Customer Service* at (512) 328-0282, Monday through Friday, between 9 a.m. and 5 p.m., Central time. Please have the following information ready, if possible:

- the error message displayed when the problem occurred (if any),
- which version of DOS you use,
- free RAM (last line of CHKDSK info),
- expanded memory available,
- your mouse and mouse driver type,
- your graphics mode,
- your machine type,
- your sound board (if any),
- the contents of your CONFIG.SYS and AUTOEXEC.BAT files,
- whether you use *Windows* or a DOS shell.

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